14

French Early Modern Sea-Monsters and Modern Identities, via Bruno Latour

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In 1991, Bruno Latour famously declared that "we have never been modern."[1] Modern identity, for Latour, is characterized by the notion that scientific disciplines are becoming increasingly separated, specialized, or purified, and that there is a categorical distinction between the natural and the social. But this purified, objective knowledge of Nature is an illusion, Latour argues: it is constantly belied by the dazzling hybridity and continued interpenetration of knowledge spheres. In other words, the disciplines are always already interdisciplinary; knowledge today is just as hybrid, just as networked, as it ever was before the Scientific Revolution, and nature and culture continue to co-produce each other. This notion of what Latour calls the "modern constitution"—the push and pull between purified and hybrid knowledge—has become a mandatory reference for any discussion of modernity as a perceived or assumed identity. In what follows, I will take Latour's modern identity to the French sixteenth century, to reframe our understanding of one particular zoological debate: the nature and existence of two famous sea-monsters, the sea-monk and the sea-bishop (Figs. 14.1–14.4). I argue that this early modern scientific debate, particularly in the ichthyological texts by Pierre Belon and Guillaume Rondelet, exhibits the epistemological tensions described by Latour in his description of the modern constitution. As they grapple with conflicting testimonials about these particularly strange animals, and try to determine what is credible, early modern zoologists generate knowledge that is simultaneously purified and hybrid, and reveal a precocious Latourian modernity. As a secondary consideration, I will also suggest that Belon's and Rondelet's scientific dialogues about these animals, both with their contemporaries and with older sources, reveals an intellectual and social elitism that is in line with Latour's (and others') critique of modern scientific practice.[2] If we have never been modern, it is perhaps because we have always been early modern.

There are several contexts to this analysis which I will lay out in some detail before discussing the sea-monsters themselves: the abundance of monographs on fish published by sixteenth-century French naturalists; the problems inherent in seeing them as precursors to our own "modern" science; and Latour's modern constitution. With this informational and conceptual framework, I will proceed to specific readings of Belon and Rondelet, showing the extent to which their discussions of the sea-monk and the sea-bishop instantiate a modern Latourian identity: an identity constituted by a productive tension between scientific and other forms of knowledge, and which furthermore constructs the former as the purview of a privileged élite. The final pages articulate modern and early modern scientific practice more generally and suggest that blurring the distinctions might help us better understand both.

Fish Books in Early Modern France

In 1558, Macé Bonhomme in Lyon published a two-part monograph on fish, *L'histoire entière des poissons*, by the French naturalist and physician Guillaume Rondelet (1507–66). This *Histoire* was in fact a translation into French of two Latin texts published in 1554 and 1555,[3] and its appearance in the vernacular signals a significant interest, in sixteenth-century French humanist circles, in the field which would later be known as ichthyology.[4] As well as the more famous encyclopedic compendia such as Conrad Gesner's four-volume *Historiae animalium* (1551–58), sixteenth-century European zoology[5] saw a surge of monographs dedicated to one type of animal. Fish (usually understood as *aquatilia* or water-dwelling animals, thus including turtles, sea urchins, etc.) were no exception, and here, French naturalists were particularly influential. In the 1550s alone—a remarkably productive decade for natural history in general—two of the four naturalists to publish influential treatises on fish, Rondelet and Pierre Belon, were French.[6] While Belon is often considered less inclusive and rigorous than Rondelet, both are used as sources into the seventeenth century, and both have long figured in the canon of sixteenth-century great naturalists along with Gesner himself (1516–65), Hippolito Salviani (1514–72), and Ulisse Aldrovandi (1522–1605).[7]

Teleology of "Modern" Science

The historian Philippe Glardon has pointed out that the reasons for which Belon and Rondelet are admired today often have to do with our desire to see in them precursors of a modern, objective, non-anthropomorphic approach to the natural world; they are reductively seen as an "intermediary phase in the history of modern science's development,"[8] not medieval but not yet quite modern. Such a teleological view of their work is understandable. Much of

what Renaissance naturalists wrote was based on direct observation, they challenge the assertions of Aristotle, Pliny, and other classical authorities, and they exhibit a classifying spirit.[9] But this idea of progress towards modernity not only depends on an unjustified privileging of our own moment, it also presents a schematic oversimplification of medieval epistemologies,[10] understanding them as a naïve hybrid of fable, fantasy, theology, and the bestiary tradition, whose errors had to be corrected by a rational, modern science.[11]

Glardon's work has been instrumental in locating the anachronisms inherent in this narrative of an emerging modern science purging itself of error and hearsay. He argues that sixteenth-century natural history has a unique coherence which is best understood without inscribing it into a framework of becoming modern. Monsters, he argues, are a good example: either dismissed as relics from medieval fantasy, or discussed in terms of what is scientific about them; they are rarely considered on their own terms.[12] In what follows, I shall look carefully at the presentation in Rondelet's and Belon's French monographs on fish (and to a lesser extent, their Latin equivalents) of the sea-monk and the sea-bishop, in a way that builds on Glardon's important challenge to teleology. I read them as serious representatives of Renaissance epistemologies rather than as naïve errors. However, I do so in a way that reinstates the "modern" in "modern science" as a necessary category, not because the triumphalist narrative of scientific progress is an appropriate lens through which to read these monsters, but because Renaissance naturalists themselves confronted the enduring epistemological problems of modernity much as we do.[13] They inhabit the productive tension between purified and hybrid knowledge systems that underlies Latour's modern constitution.

Latour's (Early) Modern Constitution

Latour's "modern constitution," described and theorized in *Nous n'avons jamais été modernes* (1991, English translation 1993), holds that modernity is constituted by a constant push and pull between what he calls the work of "separation" and the work of "hybridization."[14] All forms of knowledge, he argues, are always already hybrid, that is, imbricated in each other: scientific, religious, political, cultural, discursive. In other words, there are no contexts (which would imply foregrounding one kind of knowledge and backgrounding others), only articulated elements of networks, which he elsewhere describes as "nature-cultures."[15] One consequence of hybrid knowledge within nature-cultures is the proliferation of "quasi-objects,"[16] an example of which is a human driving a car, which is biological, technical, sociological, political (oil), environmental, etc., all at once. A scientist himself, Latour insists throughout his work that science does not separate its practitioners from the historical, the discursive, the constructed, even the sacred. But—and this is crucial—we act as though it did. Latour's modern

constitution is characterized by the notion, shared by most specialists across most disciplines, that we inhabit a particularly modern moment in which knowledge is and must be increasingly compartmentalized, specific, and removed from the social: the work of purification. But the two processes, purification and hybridization, are actually inseparable and mutually dependent: "The modern Constitution allows, however, the unbridled proliferation of hybrids whose existence it nevertheless denies."[17] As modern scholars, we tend to focus on one or the other, either hybrid or purified knowledge, rather than on how they articulate to co-produce modernity. This is, in fact, the modern fallacy Latour identifies in his chapters on historiography: "we are not emerging from some obscure past in which natures and cultures were connected, we are not striding towards some future where both will finally and definitively be separated … Modernisation never happened."[18] In other words, we look to the past (and also to anthropological Others) and imagine them as a locus of hybrid nature-culture, while simultaneously imagining modernity (and/or the West) as having separated nature and culture.[19] Latour complicates this by showing that this move is itself part of the illusion of modernity.

Early modern animals, particularly the strange or monstrous ones, are an excellent illustration of Latour's modern constitution. Many natural history texts and images exhibit these mutually dependent processes of purification and hybridization. To focus on one without the other is the fallacy of the modern constitution, but it is exactly what many of us do: scientists look for the proto-scientific elements, and literature scholars for the strange, the ambiguous, the hybrid. Rondelet's monsters are all at the same time.

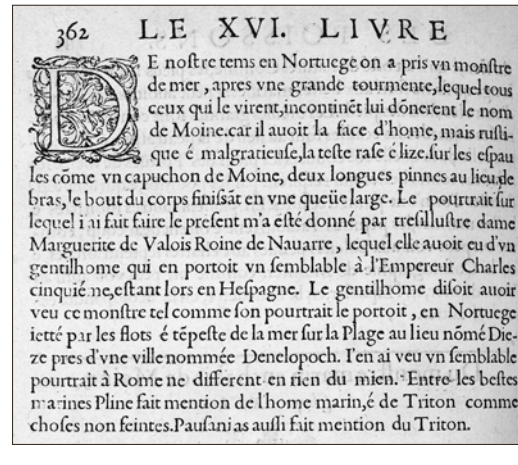
The Sea-Monk

Rondelet's sea-monk and sea-bishop appear at the end of Book 16 of his *Histoire* (the work is divided into "*Livres*," themselves constituted of short chapters, each dedicated to one animal). The sixteenth Book is dedicated to "cetacean fish and large sea creatures, especially tortoises," and its last five chapters describe, respectively: a "lion-like monster"; the sea-monk; the sea-bishop; Nereids; and "several other sea animals unknown to us except by name."[20] The last two, very short, chapters are unillustrated. These five chapters constitute a distinct sub-group, characterized by a kind of epistemological uncertainty and a need to confront head-on the issue of their veracity. In other chapters, Rondelet may exhibit doubt as to certain facts attributed to the creature in question (many chapters compare contradictory information gleaned from multiple sources, classical and contemporary, written and oral).[21] But only in these few chapters does he acknowledge that there is doubt as to the very existence of the animal in question, even if it is ultimately to conclude that there is sufficient evidence. Of the leonine monster, he admits, "I have often doubted whether this was a real marine

monster," but says "I've been assured that one was caught in the sea just before the death of Pope Paul III." If the creature stretches our credulity, he says, it is the fault of artists who embellish and exaggerate: "I think the artist added his own flair and took away from nature … painters add and take away a lot, as we can see on maps."[22] The sea-monk and sea-bishop follow immediately after this.

The sea-monk, a "sea monster in a monk's habit" (Figs. 14.1 and 14.2), is first described as a *Monacus piscis* in this now-famous form by Pierre Belon with an original woodcut in his Latin fish book *De aquatilibus* (1553).[23] Belon was most likely working from drawings, or accounts of drawings, sent by the Danish king Christian III to Charles V of a strange monk-like fish captured in the Øresund in 1546.[24] Belon starts by reporting several sightings of fish-man creatures, including a brief mention of a scaly fish resembling a bishop (which will migrate into Rondelet as a full chapter entry on the sea-bishop, considered below), and an intriguing "*monstre feminin*" who lived and worked with some Dutch women for a while. Having established that fish–human hybrids exist in general, he then more specifically describes a monk-fish found near the "Norwegian town of Del Elepoch" (identified as the site of modern-day Malmo, in Sweden, on the Danish Øresund),[25] "whose form you can see in the following picture." The fish, according to reports, lived for three days, did not speak, but moaned a lot as if in despair. Belon the scientist recognizes its strangeness and includes an explanation: it is because of "nature playing games, as we see every day in other ways."[26] This odd creature soon shows up in Rondelet's Latin *Libri de piscibus* (1554) with a very similar woodcut by Georges Reverdy,[27] and a longer text. Reverdy's woodcut and an abbreviated French text appear in Rondelet's French translation, the 1558 *Histoire*, which is

14.1 Georges Reverdy, "Monstre marin en habit de moine," woodcut illustration to Guillaume Rondelet, *L'histoire entière des poissons* (Lyon: Bonhomme, 1558), 361. Reproduced with permission of the Bibliothèque nationale de France


362 LE XVI. LIVRE

DE noſtre tems en Nortuege on a pris vn monſtre de mer, apres vne grande tourmente, lequel tous ceux qui le virent, incontinẽt lui dõnerent le nom de Moine. car il auoit la face d'home, mais ruſtique é malgratieuſe, la teſte raſe é lize. ſur les eſpaules cõme vn capuchon de Moine, deux longues pinnes au lieu de bras, le bout du corps finiſsãt en vne queüe large. Le pourtrait ſur lequel i'ai fait faire le preſent m'a eſté donné par treſilluſtre dame Marguerite de Valois Roine de Nauarre, lequel elle auoit eu d'vn gentilhome qui en portoit vn ſemblable à l'Empereur Charles cinquiéme, eſtant lors en Heſpagne. Le gentilhome diſoit auoir veu ce monſtre tel comme ſon pourtrait le portoit, en Nortuege ietté par les flots é tẽpeſte de la mer ſur la Plage au lieu nõmé Dieze pres d'vne ville nommée Denelopoch. I'en ai veu vn ſemblable pourtrait à Rome ne different en rien du mien. Entre les beſtes marines Pline fait mention de l'home marin, é de Triton comme choſes non feintes. Pauſanias auſſi fait mention du Triton.

14.2 Guillaume Rondelet, text describing *Monstre marin en habit de moine*, in Guillaume Rondelet, *L'histoire entière des poissons* (Lyon: Bonhomme, 1558), 362. Reproduced with permission of the Bibliothèque nationale de France

reproduced here. Belon reuses his *Monacus* in his 1555 *Nature et diversité de poissons* (it is not in his 1551 French treatise); it also migrates into Gesner's *Historiae animalium* (1558)[28] and the surgeon Ambroise Paré's *Des monstres* (1573), although not used by Salviani (1554).

It would be unfair and simplistic to see the circulation of the sea-monk among eminent naturalists as proof of their credulity, or their willingness to believe written sources over first-hand observation. Rather, its circulation was part of the scientific process itself. Nowhere is the existence of these monsters taken as a given; rather, they are the object of intense speculation as to their true natures, using all the information available. Each time they describe the sea-monk, naturalist authors ponder its nature and very existence, providing (especially Rondelet in his Latin text, and Gesner) an exhaustive list of sources ancient and modern, anecdotes, witnesses, and scientific reasonings for how such a creature could exist. While we will be dealing here primarily with Rondelet's French *Histoire*, his originality with respect to the sea-monk can be seen even more strikingly in his 1554 Latin text, the *Libri de piscibus*, which deserves mention. In this book, Rondelet greatly amplifies the few lines he found in Belon, and further explores the tension between received authority and the problem of credulity.[29] Recognizing that this creature defies belief, he repeats the common complaint about artists (as he did with the leonine monster) who embellish on descriptions. He then proceeds to explain what this creature might reasonably look like, offering a detailed zoomorphic comparison between it and a frog. It resembles a monk, he writes, the way a frog does: "I would prefer to believe that this strange creature reminds one of the human form in the same way as part of the head of a frog does," with the smooth head corresponding to human shoulder-blades and to monks' cowls. He says that a Norwegian doctor in Rome, "Gisbertus," showed him a picture just like that,[30] then lists other sources who have seen similar creatures, mermen and Tritons: Pliny, a messenger for the emperor Tiberius, Pausanias, and Virgil.

In the French *Histoire*, Rondelet paraphrases only the first half or so of his Latin text, leaving aside the man-frog comparative anatomy, and much of the parsing through of classical authorities. What he does provide is commensurate with an author seeking to create common ground in the vernacular with his French aristocratic contemporaries, illustrating the process of community-building that Wes Williams sees as central to early modern monsters in *Monsters and their Meaning*. Although the translation into French indicated a desire to reach a broader readership, the imagined community of scientific authorities is still understood to be an educated élite. And this interpretive work itself illustrates Latour's modern constitution, through the simultaneous and mutually constitutive work of purification and hybridization.

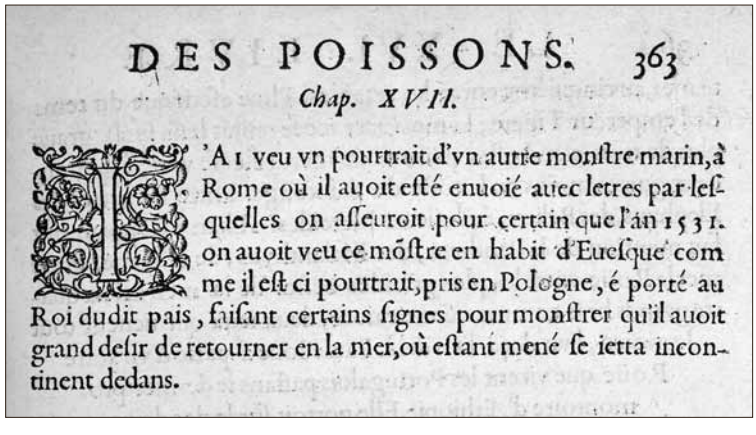
The sea-monk, Rondelet tells us, was found "in our time," and "after a great struggle" (see Fig. 14.2 for the French text). He thus establishes his and his readers' temporal proximity to the event, adding to its

credibility, while also inscribing it into a thoroughly literary and long-standing tradition of epic struggle against monstrous beasts. The text is both scientific and epic. For a moment, Rondelet's readers are almost in the fictional world of his friend François Rabelais (1494–1553),[31] battling baffling sea creatures that both demand and defy interpretation, that are both extraordinary and banal.[32] The text, therefore, that describes this fish–human hybrid is itself a hybrid. But the chain of authority, the Latourian "work of purification" and authentification that attempts to separate this monster from the domain of folklore and fiction, continues. Rondelet describes its appearance thus: "he had a man's face, but vulgar and ugly, a bald smooth head, something like a monk's hood on his shoulders." Its head is only *like* a monk's hood, so it is only a man by similitude (he also tells us that the name comes from the beast's resemblance to a man), but the thoroughly humanizing descriptors "*rustique et malgratieuse*" (an unapologetically classist assimilation of the creature's looks to those of a coarse French peasant) tend towards the anthropomorphizing which the text otherwise resists. Rondelet then presents an impeccably aristocratic chain of guarantees for the woodcut: a picture given to him by Marguerite de Navarre,[33] who had received it from a "gentleman" who was delivering a similar one to Charles V; this gentleman had seen the monster with his own eyes "just as the picture shows," thrown onto a beach near Denelopoch (this is from Belon). In a society which equated nobility with credibility, such authorities carry significant weight, going far beyond mere hearsay.[34] Rondelet has thus purified the source of the image. Originally a popular broadside, it is now attached to a chain of authority that makes it credible.[35] To the authority of royalty and traveling noblemen, Rondelet adds his own eye-witnessing (not of the creature itself but at least of a picture), and the testimony of Pliny who "mentions the merman and Triton as things not invented." Again, his Latin text is much more expansive in its discussion of classical sources for the sea-monk and other fish–man hybrids; this adds strength to the hypothesis that in his French translation, he was aiming to engage readers more immediately and directly, uniting them around the presumed authority of recognized contemporary noblemen and educated humanists.

The Sea-Bishop

Rondelet's next chapter on the sea-bishop (Figs. 14.3 and 14.4) is shorter, as is the Latin. However there are again differences between the Latin and French texts that merit mention: on the whole, the Latin text exhibits a greater push and pull between scientific authorization and skeptical disbelief, where the French text seems to be written more with a view to engage or even titillate the reader without substantially addressing the problem of veracity. The Latin chapter in *De piscibus* names the source of

14.3 Georges Reverdy, "Monstre marin en habit d'Evesque," woodcut illustration to Guillaume Rondelet, *L'histoire entière des poissons* (Lyon: Bonhomme, 1558), 362. Reproduced with permission of the Bibliothèque nationale de France



DES POISSONS. 363

Chap. XVII.

I'Ai veu vn pourtrait d'vn autre monſtre marin, à Rome où il auoit eſté enuoié auec lettres par leſquelles on aſſeuroit pour certain que l'an 1531. on auoit veu ce mõſtre en habit d'Eueſque comme il eſt ci pourtrait, pris en Pologne, é porté au Roi dudit pais, faiſant certains ſignes pour monſtrer qu'il auoit grand deſir de retourner en la mer, où eſtant mené ſe ietta incontinent dedans.

14.4 Guillaume Rondelet, text describing *Monstre marin en habit d'Evesque*, in Guillaume Rondelet, *L'histoire entière des poissons* (Lyon: Bonhomme, 1558), 363. Reproduced with permission of the Bibliothèque nationale de France

the information and picture as a doctor Gilbertus Germanus. The doctor had been assured, writes Rondelet, that this creature had been found in Poland in 1531 and brought to the king. It made signs that it wanted to return to the sea; having been taken to the shore it threw itself into the water. But, writes Rondelet in Latin:

> I am knowingly omitting many things told to me about this monster which I believe to be false. This is the vanity of men, that they embellish a thing which is itself amazing enough and add things which are beyond the truth … whether it is real or not, I neither affirm nor refute.[36]

This qualification is not in the French *Histoire*, nor is the doctor's name. The *Histoire*'s few lines, like the Latin, start with the guarantee of the first person singular: "I saw a picture of another sea monster in Rome," but the chain of proof immediately becomes ambiguous, much more so than for the sea-monk:

> [I]t had been sent [to Rome] with letters which affirmed as true that this monster in a bishop's habit had been seen just as it is represented here, captured in Poland, and having been taken to their king, making certain signs to show that he strongly wished to return to the sea, was taken back and immediately threw himself in.

The impersonal French "*on*" replaces the authority of a named doctor, and the entry's ambiguity culminates in the utterly mysterious "signs" made by the beast. Renaissance readers appreciated the slippage between sign and signified,[37] and would not necessarily have taken the interpretation of the sea-bishop's sign as a given. How did its Polish captors know what its gestures meant? The chapter ends with the equally tantalizing image of the creature hastily retreating back into the sea, as if to escape knowability and the naturalist's gaze forever. The ocean, as natural historians from Pliny on liked to point out, is the site of particularly strange, marvelous creatures. Plutarch (also much read by Renaissance zoologists) describes sea animals as "a species entirely alien and remote from us, as if they had sprung up and were living in some different world."[38] The sea-bishop offers Rondelet's readers a moment of contact with such strangeness, but does not stay in our world. It resists classification, guarantees, or explanation, returning to an element which defies the modern constitution.

The sea-monk and sea-bishop are often grouped together as typical Renaissance fabulous sea-monsters, but as we have seen, Rondelet treats them rather differently. As he sifts through the evidence and information available, he concludes that the former exists, and withholds judgment on the latter. His Latin chapter on the sea-bishop is extremely skeptical, while in the French version he seems to want to engage his reader more as a magician might, offering them something strange in which they may want to believe, with just enough information to make such belief tantalizingly possible, but which ultimately belongs—and they know it—

to a world of legend. In both cases, though, we can see a dynamic process at work which can be understood in terms of Latour's modern constitution with its constant push and pull between hybrid and purified knowledge. Rondelet not only presents hybrid creatures, he presents a hybrid text which draws on folklore, literary tradition, and social conventions. But he also, very carefully, attempts to "purify" his information through his own scientific process, by drawing on eye-witnesses and other textual accounts (Pliny, Aristotle, Plutarch, Belon, and more). In the French sea-monk chapter, there is also a social purification at work, as Rondelet adds to its scientific credibility with a uniquely aristocratic chain of witnesses. This combination of authoritative authors with a contemporary social élite makes it a sixteenth-century instantiation of Latourian "pure" science, or Bourdieuian academic capital.

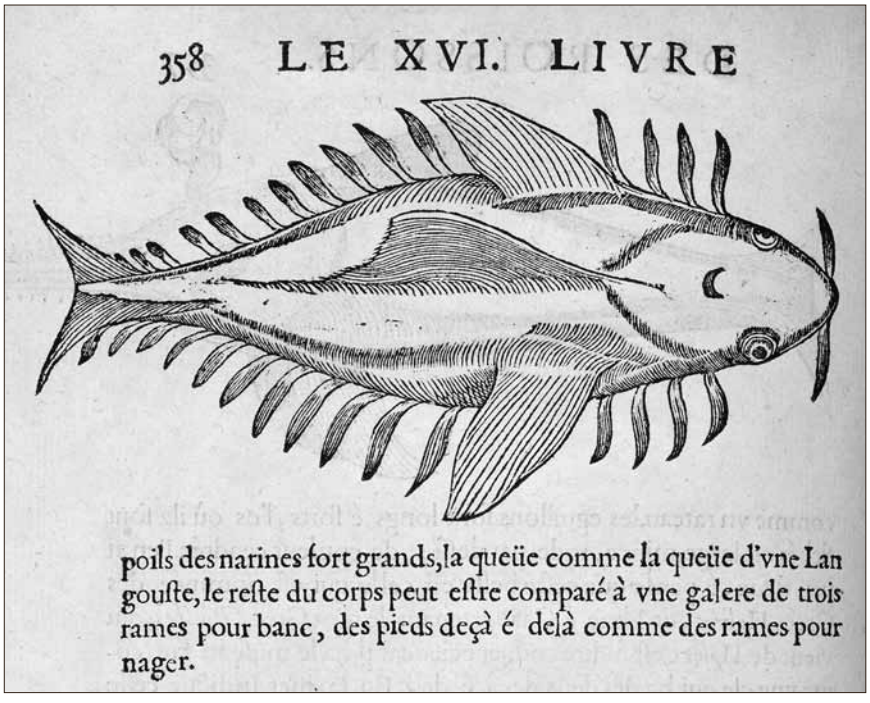
We Have Always Been Early Modern

Citing other texts, or well-known respected individuals, as proof of a creature's existence may seem unscientific to us, but it should not. Modern scientific concensus is also built in part through reading the work of other researchers whom one trusts to have evaluated evidence appropriately. Pliny and Aristotle were highly authoritative; in fact what is impressive is that Renaissance naturalists actually questioned them as much as they did.[39] Early modern natural history was characterized by a dynamic relationship to antiquity; as more and more texts were translated, often contradicting each other and the evidence of direct observation, a kind of "information overload"[40] took hold of natural historical practice, which led to more encyclopedic compilations and new kinds of zoological treatise. This dynamism was also true in the domain of philology: some of the best linguistic minds of the French sixteenth century dedicated entire books to finding vernacular equivalents to animals and plants named in Latin and Greek texts.[41] Even Rondelet and Belon, who both acknowledge significant debts to Aristotle, by no means follow his method or accept his conclusions passively, and almost every chapter weighs the claims of classical sources against each other, against their own direct observations, and those of their contemporaries. Regarding the dolphin, a particularly significant entry due to its political allegorical functions, Rondelet disagrees with Pliny, Appian, and Pausanias as to the existence of spikes on the dorsal fin. The entry for the common whale throws together so many divergent testimonials as to be positively confusing: Rondelet concludes, however, that the whale identified by the ancients "was not the common whale, but the fish named *musculus* by Aristotle and Pliny," because the whales described to him by Bayonne fisherman did not have a tube to expel water and air, as the Greeks and Romans had believed.[42] And of course, early modern naturalists did not limit their observations to those creatures discussed by Aristotle and Pliny.

They included much local flora and fauna not found in any classical texts, but directly observed by themselves (Belon was a particularly avid field worker and travelled widely) or by networks of contemporaries (Rondelet and Gesner were regular correspondents, sending descriptions and samples to each other).[43] The interpretive tradition of seeing monsters as portents or prodigies, as signs of God's wrath or intent,[44] is absent from their interpretation, as is the popular use of monsters in polemical broadsides such as Luther's monk-calf.[45] It is understandable that historians of science have claimed these texts as their precursors.

However, such a narrative tends to reduce the presence of monsters to the status of mere error, proof that the Renaissance mentalities were more hybrid than our own, and that they still had to fully separate scientific knowledge into its own, purified (in Latourian terms) sphere. Their images have taken on a life of their own, wrested from the context of Rondelet's and Belon's books because they correspond to our own narrative of the Renaissance becoming modern: midway on a direct ascending line of progress from fanciful medieval bestiaries through rational Cartesianism up to eighteenth-century Linnean taxonomy. In the anonymous publisher's note to a 1971 edition of *Curious Woodcuts of Real and Fanciful Beasts* taken from the work of Conrad Gesner and Edward Topsell, for example, we read that these images, "freed from the encumbrance of the text" (!) are a "product of the full flowering of the Renaissance, its modern scientific spirit reflected in the sober, objective and conscientious renderings of the animals." The few monstrous creatures, "fanciful and physically impossible beasts," are included to show that "scientific zoology was still in its infancy."[46] Such a teleological view of monsters, and of early modern zoological knowledge in general, ignores the work of Latourian purification being done by these naturalists which is evidenced in the accompanying texts.[47] And the rest of Rondelet's and Belon's books, in which the images of the sea-monk and sea-bishop appear, are—to our minds—quite neutral and scientific, with recognizable and unremarkable-looking illustrations of fish, such as that of the so-called cetacean *scolopendra* (Fig. 14.5). Rondelet describes 264 fish in total, of which 239 have illustrations. The strange and marvelous beasts at the end of his sixteenth book—the leonine monster, the sea-monk, the sea-bishop, and the Nereids—constitute a tiny fraction of his work. To focus only on the monsters is, as Wes Williams argues, "to distort their sense and scope."[48]

Focusing only on the monsters also distorts our understanding of the richness—and the modernity—of early modern natural history. As I hope to have shown, Rondelet and his contemporaries, when confronted with something strange and unknowable, did not passively accept what they had been told, but scrutinized the information carefully, separating what they believed to be true from what they believed to be legend. If they did give credence to information that we today have disproved, this does not make them more naïve or us more modern. Many of us today believe that


358 LE XVI. LIVRE
poils des narines fort grands, la queüe comme la queüe d'vne Lan
gouſte, le reſte du corps peut eſtre comparé à vne galere de trois
rames pour banc, des pieds deçà é delà comme des rames pour
nager.

14.5 Georges Reverdy, "Scolopendre," woodcut illustration to Guillaume Rondelet, *L'histoire entière des poissons* (Lyon: Bonhomme, 1558), 358. Reproduced with permission of the Bibliothèque nationale de France

ostriches stick their heads in sand (which means we are still referencing Pliny), and to prove or disprove such an assertion, we are much more likely to consult a written text than spend hours ourselves observing a real ostrich. We have never been modern, or, always been early modern.

I am not suggesting that we dismiss the notion of hybrid knowledge systems in the Renaissance, but rather that we should see our own modern science as equally hybrid, and also that we not ignore the clear and simultaneous process of Latourian separation and purification in the early modern period, which attempted to distinguish human from nonhuman, and to classify knowledge about the latter in its own separate knowledge sphere. It is this productive push and pull, Latour argues, which provides the essential work of the modern constitution. Latour not only allows for us to hybridize and to purify, to be both fluid and categorical, but shows us that doing both at the same time makes us modern—or makes us think we are. We are not so different from Rondelet back in the 1550s, trying to make sense of his man–fish hybrids.

Notes

1 Bruno Latour, *Nous n'avons jamais été modernes: Essai d'anthropologie symmétrique* (Paris: Découverte & Syros, 1991); and *We Have Never Been Modern*, transl. Catherine Porter (Cambridge MA: Harvard University Press, 1993). Page numbers for citations are from the original French edition; translations are my own.

2 Latour has long been a proponent of a more chaotic, democratic scientific practice, more world-based than lab-based; see, for example, his *Politiques de la nature. Comment faire entrer les sciences en démocratie* (Paris: La Découverte, 1999.) Indeed his early studies of laboratory culture argued that their notion of pure truth was a canny illusion, in that it hid the fact that such truth was always co-produced by social and political factors, for example *Les microbes. Guerre et paix, suivi de Irréductions* (Paris: Métailié, 1984.) See also Pierre Bourdieu's critiques of intellectual oligopolies in sociology, tied to institutional and individual prestige, for example "Vive la crise! For Heterodoxy in Social Science," *Theory and Society* 17 (1988), 773–87.

3 *Libri de piscibus marinis in quibus verae piscium effigies expressae sunt* (1554); and *Universae aquatilium historiae pars altera* (1555), both published by Bonhomme in Lyon. Rondelet wrote in French; his French was translated into Latin by Charles de l'Ecluse for these two works, which were subsequently retranslated, with modifications, as the 1558 *Histoire*, possibly by Rondelet's student Laurent Joubert. The full title of the first part of the 1558 French text, which is a translation of the 1554 *Libri*, is *La premiere partie de l'histoire entiere des poissons, Composée premierement en Latin par maistre Guilaume Rondelet Docteur regent en Medecine en l'université de Mompelier. Maintenant Traduite en François sans avoir rien omis estant necessaire à l'intelligence d'icelle. Avec leurs pourtraits au naïf*. The *seconde partie*, translating the 1555 *Universae*, was bound with the first although it has separate pagination. It has an otherwise identical title. I here use reproductions of the copy at the Bibliothèque nationale de France, with permission, shelfmark RESM-S-57. The copy at the Muséum d'histoire naturelle is reproduced in facsimile in Guillaume Rondelet, *L'histoire entière des poissons*, ed. François Meunier, pref. François Meunier and Jean-Loup d'Hondt (Paris: CTHS, 2002). The BnF notice gives Joubert as the translator; however Meunier and d'Hondt consider Joubert's translation as possible rather than definite (Joubert penned some liminary verse to the second part, but the translator's note that precedes both parts is not in fact signed by him). The French text is often shorter than the Latin, suggesting that the act of translating into the vernacular was indeed seen as making it more generally accessible and less specialized.

4 It is surely no coincidence that in the idealized educational program outlined by François Rabelais (1494–1553) in his *Pantagruel* (1532), whereupon the humanist prince Gargantua recommends to his son Pantagruel the acquisition of encyclopedic knowledge in all possible disciplines, the first thing mentioned in the sentence dealing with "things of the natural world" is knowledge of the names of fish: "as for knowledge of nature, I want you to study diligently: let there be no sea, river, or fountain, whose fish you cannot identify." François Rabelais, *Pantagruel*, ch. 8, vol. 2 of *Oeuvres complètes*, ed. Pierre Jourda (Paris: Garnier, 1962), 261.

5 "Natural history" was the term used in the early modern period for the study of plants and animals; however, historians of science often use the term "zoology" for convenience, while acknowledging the anachronism. For an excellent programmatic overview of early modern natural history, including consideration of the stakes of terminology and the multiple risks of anachronism, with a useful bibliography of primary and secondary sources, see Philippe Glardon, "L'histoire naturelle du XVIe siècle: Historiographie, méthodologie, et perspectives," *Gesnerus* 63 (2006), 280–98. Laurent Pinon's anthology of Renaissance natural history books is an invaluable sourcebook, with a detailed introduction and descriptions of 44 books including images: *Livres de zoologie de la Renaissance, une anthologie (1450–1700)* (Paris: Klincksieck, 1995). Allen Debus, *Man and Nature in the Renaissance* (Cambridge: Cambridge

University Press, 1978), is still a good synoptic introduction to early modern scientific changes in general; Brian Ogilvie's *The Science of Describing: Natural History in Renaissance Europe* (Chicago: University of Chicago Press, 2006) is an excellent, more synthetic overview. I shall return below to considerations of the broader intellectual context. For a justification of the term "naturalist"—neither a profession nor a trade in the sixteenth century—see Ogilvie, *Science of Describing*, 54–58.

6 Pierre Belon (1517–64) published two French texts on fish (1551 and 1555) and one in Latin (1553). The 1555 book, *La Nature et diversité des poissons, avec leurs pourtraicts représentez au plus près du naturel* (Paris: Estienne) is considerably longer, while the former, *L'histoire naturelle des estranges poissons marins, avec la vraie peincture et description du Daulphin* (Paris: Chaudière, 1551), puts polemical (given its political allegories) emphasis on the dolphin. A comparative study of Belon and Rondelet is given by Arnaud Zucker, "Fonctions des classes dans les traités ichtyologiques de P. Belon et G. Rondelet: empreinte ou alibi antique?" in *Animal et animalité dans la philosophie de la Renaissance et de l'age classique*, ed. Thierry Gontier (Louvain and Paris: Editions Peeters, 2005), 7–29. Other fish books from the 1550s are by Hippolito Salviani (1554–58) and Gesner (1556 and 1558, the latter the fourth book of his encyclopedic *Historiae animalium*). Aldrovandi's was not published until after his death in 1613.

7 For example, E.W. Gudger, "The Five Great Naturalists of the Sixteenth Century: Belon, Rondelet, Salviani, Gesner and Aldrovandi: A Chapter in the History of Ichthyology," *Isis* 22 (1934), 21–40. Wes Williams does justice to the complexity of Belon's 1551 text with respect to monsters and the need for careful, truth-based observation, in *Monsters and their Meanings in Early Modern Culture: Mighty Magic* (Oxford: Oxford University Press, 2011), 51–4.

8 Glardon, "L'histoire naturelle," 281.

9 Ogilvie, *Science of Describing*, gives many examples of all of these characteristics, for example the importance of "herborizing" expeditions into wild areas (70–74) which Rondelet and Belon both led; indeed, Belon died on such a local expedition.

10 Philippe Glardon, "Survivances médiévales et renouveau dans l'illustration zoologique du XVI siècle," *Micrologus* 8 (2000), 632. Glardon also points out how the script of progress reduces the complexity of medieval natural history.

11 An example of this corrective approach is George Eberhart's exegesis of the "sea-monk" in *Mysterious Creatures: A Guide to Cryptozoology* (Santa Barbara CA: ABC-CLIO, 2002), which gives possible explanations including that it was actually a squid or a manufactured curio (477–78). See also Patrick Geistdoerfer, "Monstres marins et réalités scientifiques," in *Imagi-mer. Créations fantastiques, créations mythiques*, ed. Aliette Geistdoerfer, Jacques Ivanoff, and Isabelle Leblic (Paris: CETMA, 2002), 42–54, who provides a classification of sea monsters from the totally invented (he places the sea-monk in this category) to "hoaxes," and who speculates on real-world equivalents (for example, a rattail fish for the sea-bishop). I am not suggesting that this explicative reflex is misguided, but rather that early modern naturalists were, with the information available to them, doing something quite similar—in other words, we are not uniquely modern in our ability to suggest "real world" equivalents for these monsters.

12 Glardon, "Survivances médiévales," 632. Wes Williams, in his important recent book on monsters and the early modern imaginary, reads literary monsters as a "question asked of systems of representation," as contextualized signs asking

for meaning and thus indicating an interpretive community (*Monsters and their Meanings*, 12). My intervention here is not primarily in the field of teratology or monster studies, which has expanded rapidly from Jeffrey Jerome Cohen's *Monster Theory: Reading Culture* (Minneapolis: University of Minnesota Press, 1996) to Ashgate's recent collection, *The Ashgate Research Companion to Monsters and the Monstrous*, eds. A.S. Mittman and P. Dendle (Burlington VT: Ashgate, 2012). For the early modern period, Lorraine Daston and Katherine Park's *Wonders and the Order of Nature* (New York: Zone Books, 1998) is foundational, as is, for the French sixteenth century, Jean Céard's *La nature et les prodiges: L'insolite au 16e siècle en France* (Geneva: Droz, 1977). However, the present chapter is certainly enabled by the turn, instantiated by modern teratology, to the history of science as connected to other histories (of the book, of nationhood, of literary genre) which sees monsters as much more than freakish curiosities in the grand narrative of modern science—taking them seriously as signifiers, as Glardon (foregrounding scientific texts) and Williams (foregrounding the literary while insisting on multiple intellectual contexts) variously invite us to do.

13 I thus seek to understand early modern "modernity" not as merely emergent (that is, as a precursor to our own), although the term "early modern" itself implies teleological thinking to some extent. The terminological debate is discussed by Leah Marcus, "Renaissance/Early Modern Studies," in *Redrawing the Boundaries: The Transformation of English and American Literary Studies*, eds. Stephen Greenblatt and Giles Gunn (New York: Modern Language Association, 1992), 41–63. With respect to sixteenth-century France, I here use "Renaissance" and "early modern" interchangeably.

14 Latour, *Nous n'avons jamais été modernes*, 21.

15 Latour, *Nous n'avons jamais été modernes*, 104. The much-discussed concept of "nature-culture" has also informed much of Donna Haraway's work on scientific praxis, and more recently on human–animal relations, for example in *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003).

16 Latour develops this notion from Michel Serres, *Le parasite* (Paris: Hachette, 1997), for whom the quasi-object is a (human or nonhuman) constructor of intersubjective relations. Hybrid knowledge systems are also the basis of Latour's approach to discourse which he sees as combining the social/semiotic and the material: "networks are simultaneously real like nature, narrated like discourse, and collective like society … discourse is not a world unto itself, but a population of *actants* which are imbricated with the material as well as with the social" (*Nous n'avons jamais été modernes*, 15, 123). *Actants* are key to Actor Network Theory (ANT), on which see, among many others, Bruno Latour, *Reassembling the Social: An Introduction to Actor Network Theory* (Oxford: Oxford University Press, 2005), originally written in English then translated into French as *Changer de société, refaire de la sociologie* (Paris: La Découverte, 2007).

17 Latour, *Nous n'avons jamais été modernes*, 53.

18 Latour, *Nous n'avons jamais été modernes*, 104.

19 Lorraine Daston and Katharine Park admit that, during the early stages of what would become their seminal book *Wonders and the Order of Nature*, they worked with a linear notion of monsters, assuming a development from medieval prodigies to Renaissance wonders to Enlightenment naturalized objects. They ended up with a very different model of "sensibilities that overlapped and recurred like waves" (11).

20 Citations are taken from the modern facsimile edition, *L'histoire*, ed. Meunier. Translations are my own.

21 A particularly sustained example of this comparative approach to sources is the long chapter on the dolphin, in Rondelet, *L'histoire*, 344–50.

22 Rondelet, *L'histoire*, 360–61. With respect to dolphins, Belon's 1551 *Histoire naturelle* likewise reproaches artists for taking license with the truth: see Williams, *Monsters and their Meaning*, 52.

23 Pierre Belon, *De aquatilibus, libri duo: cun eiconibus ad vivam ipsorum effigiem, quoad ejus potuit, expressis* (Paris: Charles Estienne, 1553), 38–39. There seems to have been some subsequent confusion with the monk-calf made famous by Luther, but they were originally reported as two separate creatures. The monk-calf was a deformed calf, reported as born in Freiberg in 1522, which became a pivotal image of faith on various sides of Reformation and anti-Reformation polemic. It became a symbol, in a polemical pamphlet by Martin Luther (1523), for the Catholic church. Luther's "Monk-Calf" was published with a polemical treatise by Melanchthon on the "Pope-Ass," which was itself based on reports of a deformed creature fished out of the Tiber in 1496. It also became a symbol, for Luther's opponents, of the "monstrosity" of the Reformation. See Jennifer Spinks, *Monstrous Births and Visual Culture in Sixteenth-Century Germany* (London: Pickering & Chatto, 2009), 59–84, 114–15. The confusion might come from the fact that the sea-monk was, like the monk-calf, glossed as the monstrous Luther by the Catholic polemicist Johann Nas in his apocalyptic *Ecclesia militans* (1569) (see Spinks, *Monstrous Births*, 120).

24 The most detailed assembly of historical evidence for the capture, reporting, and drawings of this particular fish is Charles Paxton and R. Holland, "Was Steenstrup Right? A New Interpretation of the Sixteenth-Century Sea Monk of the Øresund," *Steenstrupia* 29 (2005), 39–47. They argue that eight separate accounts of this event allow us to date it in 1546. Paxton and Holland also provide a table with various Renaissance drawings of the creature with possible sources, and carefully go through many Renaissance accounts of the creature, concluding that there was one common source for all subsequently divergent accounts, and that this was most likely an angelshark captured in the Øresund in 1546.

25 Paxton and Holland, "Was Steenstrup Right?," 42.

26 This of course puts it into the category of the preternatural, a wonder rather than a miracle. See Daston and Park, *Wonders*, 14, 120–22.

27 Not much is known about Reverdy, who worked both in woodcuts and intaglio; for a synopsis of studies, see Estelle Leutrat, *Les débuts de la gravure sur cuivre en France* (Geneva: Droz, 2007), 101–20. The illustrations in Rondelet are woodcuts; copper etchings were used more frequently by the end of the sixteenth century. They allowed for finer etchings but were more expensive. Salviani was the first to use copper engravings to depict fish. A helpful summary of the history of zoological woodcuts and engravings, and how they helped determine zoological knowledge itself, is Pinon, *Livres de zoologie*, 23–30.

28 Gesner included, in his chain of proof, much of Rondelet's and Belon's text, as well as evidence he had heard himself: for Gessner's inventorial approach to natural history, see Laurent Pinon, "Conrad Gessner and the Historical Depth of Renaissance Natural History," in *Historia: Empiricism And Erudition in Early Modern Europe*, eds. Gianna Pomata and Nancy Siraisi (Cambridge MA: The MIT Press, 2005), 241–68, and 254–56 for discussion of the sea-monk.

29 Rondelet, *Libri de piscibus*, 493.

30 Many doctors and surgeons, like Rondelet himself, were also naturalists; the authority of a doctor, therefore, in matters of natural history was considerable. Paxton and Holland consider Rondelet's and Belon's source to be one and the same ("Was Steenstrup Right?," 42).

31 Rondelet met Rabelais in the medical faculty of Montpellier in 1530. Rabelais affectionately fictionalized him as the doctor Rondibilis in his *Tiers livre* (1546). For more on Rondelet's circle of humanist friends, see Katharina Kolb, *Graveurs, artistes et hommes de science. Essai sur les Traités de Poissons de la Renaissance* (Paris: Edition des Cendres, 1996), 93–99.

32 For a discussion on the slippage between allegory and corporeality in the whale episode of Rabelais's *Quart livre* (1552), see Timothy Hampton, "Signs of Monstrosity: The Rhetoric of Description and the Limits of Allegory in Rabelais and Montaigne," in *Monstrous Bodies/Political Monstrosities in Early Modern Europe*, eds. Laura Knoppers and Joan Landes (Ithaca NY: Cornell University Press, 2004), 190–93. On this episode in the context of natural history, see Williams's brilliant reading in *Monsters and their Meaning*, ch. 1.

33 Interestingly, Rondelet's French text omits a long, laudatory sentence, found in the Latin, praising Marguerite's perfections to the sky. Perhaps for his intended community of French readers, such reminders of her excellence were considered superfluous. For the projection of social class structure into zoological texts, see Glardon, "Survivances médiévales."

34 When Rondelet cites Pliny in his Latin text, he cites a passage in which Pliny himself refers to the authority of the elite equestrian order: "Autores habeo in equestri ordine splendentes."

35 Sachiko Kusukawa, "The Role of Images in the Development of Renaissance Natural History," *Archives of Natural History* 38 (2011), 199.

36 Rondelet, *Libri de piscibus*, 494. Gesner is sometimes given as the source for the sea-bishop, but in fact Gesner cites Rondelet verbatim (and credits him) at the head of his chapter on the sea-bishop. Gesner then proceeds, at length, to marshal all other available testimonials, from classical sources to his contemporaries, as to the existence of human–fish hybrids in general. He does not pronounce definitive judgment, but does repeat the common trope of the strangeness of sea life compared to land: *Historiae animalium liber IIII qui est de Piscium et Aquatilium animantium natura, cum iconibus …* (Zurich: Froebischer, 1558), 520–21.

37 Michel Jeanneret has been instrumental in arguing that there was a true Renaissance hermeneutic crisis, after the gradual disappearance of medieval allegorical modes, in humanist and Reformation exegesis: see *Le défi des signes: Rabelais et la crise de l'interprétation à la Renaissance* (Caen: Paradigme, 1994).

38 Book 4, question 4 of "Table Talk," on the subject of "whether the sea is richer in delicacies than the land." The English translation is from volume 8 of Plutarch, *Moralia*, transl. Paul Clement (Cambridge MA: Harvard University Press, 1969), 351.

39 Aristotle's *De animalibus* was widely translated into Latin and printed in the Renaissance, starting with Gaza's translation in 1476. Pliny's *Historia naturalis* was even more widely read, with dozens of editions in the sixteenth century, and translated into French by Antoine du Pinet in 1562. Other influences included Aelian, Oppian, and Plutarch. For the dynamic relations between

Renaissance naturalists and classical sources, particularly Aristotle, with respect to animals, see Stefano Perfetti, "Philosophers and Animals in the Renaissance," in *A Cultural History of Animals in the Renaissance*, ed. Bruce Boehrer (New York: Berg, 2007), 147–64. Perfetti sees Rondelet's method as the "last attempt to do natural philosophy by holding together—and on the same level—three sources of knowledge: an epistemology of Aristotelian inspiration, information drawn from ancient authors, and new acquisitions" (162). An excellent recent book-length study of the trajectory of early modern zoological knowledge is Ogilvie, *Science of Describing*. Ogilvie argues that natural history became a distinct discipline by the early seventeenth century, related to natural philosophy and medicine but self-defined (and defined by other intellectuals) as different (2).

40 I take the term from the title of a special volume of the *Journal of the History of Ideas* 64 (2003) on early modern information overload. On its relevance to the natural sciences, see Brian Ogilvie's contribution, "The Many Books of Nature: Renaissance Naturalists and Information Overload," 29–40, which argues that it was early modern naturalists' challenges to received authority that created an overabundance of information and led to new genres and epistemic practices, rather than information overload coming from classical sources alone. On early modern techniques of "information management," and ways in which they challenge the idea of a uniquely modern relationship to information, see Ann Blair, *Too Much to Know: Managing Scholarly Information before the Modern Age* (New Haven CT: Yale University Press, 2010).

41 For example, Charles Estienne's *De graecis et latinis nominibus arborum, piscium …* (1536), or Salviani's *Aquatilium animalium historia* (1558) which provides a 100-page table of correspondences between Latin, Greek, and European vernacular fish names, their attributes, and the relevant passages in Aristotle, Pliny, Aelian, and Oppian. On the importance of translation during this period for fish books in particular, see Pieter Beullens, "Aristotle, his Translators, and the Formation of Ichthyologic Nomenclature," in *Science Translated: Latin and Vernacular Translations of Scientific Treatises in Medieval Europe*, eds. Michèle Goyens, Pieter de Leemans, and An Smets (Leuven: Leuven University Press, 2008), 105–22.

42 Rondelet, *L'histoire*, 345, 352. For a technical, comparative analysis of the methods of Belon and Rondelet compared to Aristotle, see Zucker, "Fonctions des classes."

43 A solid synopsis of sixteenth-century French zoological practice is Paul Delaunay, *La zoologie au seizième siècle* (Paris: Hermann, 1962), 1–29. On the importance of intellectual communities, see Ogilvie, *Science of Describing*, 74–85, and for Gesner's practice in particular, see Candace Delisle, "Accessing Nature, Circulating Knowledge: Conrad Gessner's Correspondence Networks and his Medical and Naturalist Practices," in *History of Universities*, vol. 23/2 (Oxford: Oxford University Press, 2008), 35–58.

44 See Céard, *La nature et les prodiges*; and Daston and Park, *Wonders*, 177–90. Pierre Boaistuau's *Histoires prodigieuses* (1560), written in the context of civil war, attributed most monsters to divine wrath.

45 See Lorraine Daston and Katharine Park, "Unnatural Conceptions: The Study of Monsters in Sixteenth- and Seventeenth-Century France and England," *Past and Present* 92 (1981), 20–54.

46 Conrad Gesner and Edward Topsell, *Curious woodcuts of fanciful and real beasts; a selection of 190 sixteenth-century woodcuts from Gesner's and Topsell's natural histories* (New York: Dover Publications, 1971), n.p.

47 However, fascination with the images on their own is not entirely anachronistic. Gesner's publisher did produce a series of *Icones animalium* (1560), featuring all Gesner's woodcuts with a very pared-down text: early modern readers were themselves hungry for these woodcuts. The text never disappeared entirely, though, as it does in this 1971 edition. Kusukawa, "Role of Images," is a thorough review of recent scholarship on the functions of images in early modern natural history. Philippe Glardon argues for the image's specifically theological and typological function in "The Relationship between Text and Illustration in Mid-Sixteenth-Century Natural History Treatises," in Boehrer, *Cultural History of Animals*, 119–46.

48 Williams, *Monsters and their Meaning*, 41.

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